

## CLAIMS

I claim:

1. A method for providing environmental monitoring and control, the method comprising:

providing a plurality of wireless nodes, the plurality of wireless nodes includes a plurality of sensor nodes and a plurality of actuator nodes, each wireless node including a wireless transceiver, a processor and one of a sensor device or an actuator device;

sending a message from a first wireless node to a second wireless node through wireless communication;

sending an acknowledgement message from the second wireless node to the first wireless node, the acknowledgement message including a time slot for the next scheduled transmission between the first and the second wireless nodes;

turning off the wireless transceivers of the first and second wireless nodes; and

turning on the wireless transceivers of the first and second wireless nodes synchronously at the time slot for the next scheduled transmission.

2. The method of claim 1, further comprising:

sending a timing synchronization message from the first wireless node to the plurality of wireless nodes to synchronize the time base of each wireless node.

3. A method for providing environmental monitoring and control, the method comprising:

providing a plurality of wireless nodes, the plurality of wireless nodes includes a plurality of sensor nodes and a

plurality of actuator nodes, each wireless node including a wireless transceiver, a processor and one of a sensor device or an actuator device;

sending a message from a first wireless node to a second wireless node through wireless communication, the message including a time slot for the next scheduled transmission between the first and the second wireless nodes;

sending an acknowledgement message from the second wireless node to the first wireless node acknowledging the time slot;

turning off the wireless transceivers of the first and second wireless nodes; and

turning on the wireless transceivers of the first and second wireless nodes synchronously at the time slot for the next scheduled transmission.

4. The method of claim 3, further comprising:

sending a timing synchronization message from the first wireless node to the plurality of wireless nodes to synchronize the time base of each wireless node.

5. A method for providing environmental monitoring and control, the method comprising:

providing a plurality of wireless nodes, the plurality of wireless nodes includes a plurality of sensor nodes and a plurality of actuator nodes, each wireless node including a wireless transceiver, a processor and one of a sensor device or an actuator device;

sending a message from a first wireless node to a second wireless node through wireless communication, the

message including a plurality of available time slots for the next scheduled transmission between the first and the second wireless nodes;

processing at the second wireless node the message including the plurality of available time slots to select a time slot among the plurality of available time slots for the next scheduled transmission between the first and the second wireless nodes;

sending an acknowledgement message from the second wireless node to the first wireless node, the acknowledgement message including the selected time slot;

turning off the wireless transceivers of the first and second wireless nodes; and

turning on the wireless transceivers of the first and second wireless nodes synchronously at the selected time slot for the next scheduled transmission.

6. The method of claim 5, further comprising:

sending a timing synchronization message from the first wireless node to the plurality of wireless nodes to synchronize the time base of each wireless node.